

REMARKS

The Office Action dated April 28, 2009 has been received and carefully studied.

A Request for Continued Examination is filed herewith.

The Examiner rejects claim 19 under 35 U.S.C. §102(b) as being anticipated by Abbe et al., U.S. Patent No. 3,159,507.

The rejection is respectfully traversed.

Abbe et al. do not disclose providing a microporous sheet made of a thermoplastic as expressly required by claim 19. Indeed, all of the passages of Abbe cited by the Examiner in support of the microporous sheet limitation require that the sheet be made of glass fibers.

The Examiner also rejects claims 1-2, 8-16 and 18 as being unpatentable over Abbe et al., U.S. Patent No. 3,159,507 in view of Zucker, WO 03/026038; claims 3-6 as being unpatentable over Abbe et al. in view of Zucker, and further in view of Kawai et al., U.S. Patent No. 3,210,218, and claim 7 as being unpatentable over Abbe et al. in view of Zucker, and further in view of Farahmandi et al., U.S. Publ. No. 2001/0020319. The Examiner also rejects claim 17 as being unpatentable over Abbe et al. and Zucker, further in view of Kawai et al., and claim 21 as being unpatentable over Abbe et al. in view of Bohnstedt, U.S. Patent Publ. No. 2003/0129486.

The rejections are respectfully traversed.

The present invention relates to a separator material for

forming a separator for a lead-acid accumulator wherein the separator material comprises a first layer in the form of a microporous sheet which is made of a thermoplastic and at least one second layer in the form of a planar fleece material (claim 1), as well as a process for the production thereof (claim 19).

Applicants previously argued that Abbe is limited to the teaching of microporous layers that are made of glass fibers. In paragraph 16 of the present Office Action, the Examiner considers these arguments why Abbe teaches away from using a polymer material for making the microporous layer not to be persuasive.

Specifically, the Examiner takes the position that Abbe only in a preferred embodiment teaches glass microporous layers, but also allows for other materials such as wood, rubber and plastic materials. For the reasons set forth below, Applicants respectfully submit that the Examiner's position is not proper.

Abbe describes in column 1, line 10 to column 2, line 55 the prior art, the problems in the prior art, as well as the objects underlying the invention of Abbe. As part of this discussion of the prior art, it is stated in column 1, lines 60-64 that:

"The chemical resistance properties and the mechanical properties of glass are more suitable than those of any other materials such as wood, rubber and plastic materials, heretofore employed for the construction of separating members."

In column 2, lines 15-19, Abbe then goes on to state:

"Among the objects of the present invention is to provide a generally improved form of separator for galvanic cells using at least a layer of glass fibers and melting the aforementioned requirements of a separator with satisfaction." (Emphasis added.)

Further, column 2, lines 30-36 of Abbe read as follows:

"Still another object of this invention is to provide an improved battery separator of the aforementioned type which is made of a single type of material and which is so formed as to be a self-supporting structure which will retain its general configuration, while at the same time provide a desired amount of resiliency in the direction perpendicular to the faces of the separator." (Emphasis added.)

That the separators of Abbe must be wholly of glass fibers is also clear from column 2, lines 37-41:

"Still another object of this invention is to provide a battery separator made wholly of glass fibers and including a plurality of juxtaposed layers of relatively rigid microporous agglomerated fibers and a relatively more porous and more resilient layer of fibers." (Emphasis added.)

That the teaching of Abbe is indeed limited to separators consisting entirely and solely of glass fibers is finally confirmed by the very wording of claims 1 and 3:

"the separator consists entirely and solely of glass fibers agglomerated by partial fusion".

The Examiner's position that Abbe teaches a first layer in the form of a microporous sheet which is made of a thermoplastic

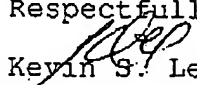
as required in accordance with the present invention is thus not proper. "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant." In re Gurley, 27 F.3d 551, 553 (Fed. Cir. 1994). Clearly Abbe teaches away from using anything but glass fiber layers in his battery separators.

Modifying Abbe by changing the glass fiber layer to the thermoplastic material of Zucker would be completely contrary to the teachings of Abbe, and thus the combination of Abbe and Zucker does not render the present invention obvious.

Neither Kawai et al. nor Farahmandi et al. nor Bohnstedt supply the deficiencies of Abbe and Zucker.

Reconsideration and allowance are respectfully requested in view of the foregoing.

Respectfully submitted,


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